Lehti-Feynman Method: Extrapolative Trial by Error

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Cognitive biases and learned behaviors persist across generations through an education system rooted in fourth-century CE doctrine. Designed to preserve order rather than foster adaptability, this structure sustains intellectual inertia. Like a virus, it replicates resistance to new ideas, conditioning individuals to reject change instinctively.

The Semmelweis Reflex describes the rejection of evidence that challenges accepted and first learned beliefs. Ignaz Semmelweis, who discovered handwashing lowered infection rates during medical procedures, faced: dismissal, mockery, hostility, and banishment instead of recognition. The medical establishment, unwilling to confront its failures, ridiculed his evidence, findings, and statistics simply because of **cognitive hardening**. Forced out of his position, Semmelweis endured professional exile and was ultimately confined to a mental asylum. There, he suffered a severe hand wound, possibly from an assault, which led to fatal sepsis. His death at 47 underscores how institutions protect ideology at the expense of truth.

Cognitive Dissonance: the visceral response to conflicting information, characterized by guilt, shame, anxiety, agitation, and a sense of impending doom, causes loss of focus, a sudden urge to escape, laughter, mockery, and, when escalated, anger—unless one becomes self-aware of it. A ***Cognitive Impasse*** serves as the framework for self-awareness and is a multi-stage reaction that produces belief perseverance; it begins with a laugh, chuckle, scoff, eye roll, or any similar external sign of disapproval. This is followed by cognitive dissonance avoidance, then cognitive dissonance itself, while cognitive inertia slows mental processing through cognitive biases, ultimately forcing the individual to maintain the original conclusion.

Lehti, Andrew (2025). Cognitive Impasse [Visual]: Stages of Mental Rigidity, Dissonance, and Bias. figshare. Figure. https://doi.org/10.6084/m9.figshare.30016195

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To address common concerns about accessibility, it is assured that no paywall will be implemented. This research will remain freely accessible, as research should inherently be open to all.

Methodology

The research focuses on investigating motives, behaviors, and observations while deliberately avoiding prior exposure to academic findings utilizing my approach which is **extrapolative trial by error.** This approach minimizes anchoring biases that could influence the thought process. After completing the study, academic material is reviewed comprehensively to evaluate alignment with the findings. Typically, the findings correspond closely with established principles, with exceptions limited to nuanced insights not yet formally recognized but widely observed in society. Few contradictions arise with established norms, apart from the integration of multiple established biases into more complex, composite biases that reflect broader systemic issues.

Lehti, Andrew (2024). Extrapolative Trial by Error. Journal contribution.
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Extrapolative Trial by Error: Lehti-Feynman Method

Authored by Andrew Lehti, "Extrapolative Trial by Error" is a research methodological framework designed for investigative research. The author notes that the methodology should be given an easier personal name to remember. The Lehti-Feynman Method, a sub-name suggested in feedback to make the concept more memorable and easily recalled in discussions.

This framework is presented as a resource for anyone, though the author has found that individuals with MBTI types INTJ, ENTJ, INFJ, ENFJ, and ENFP resonate with it and may have naturally developed similar research patterns. According to feedback received by the author, young INTJ and INFJ users reported that the method made their learning process faster and more in-depth. For some, it helps develop knowledge and understanding without relying on rote memorization.

The methodology was developed over time to mitigate cognitive biases in research, encourage learning from mistakes, and foster humility. It is designed to train and exercise higher cognitive functions such as working memory, extrapolation, synthesis, inference, deduction, pattern recognition, and various forms of thinking (abstract, systems, lateral).

The author notes a similarity to the Feynman method but specifies this process is applied to the self. It is framed as a competition with oneself to improve, rather than teaching another person.

The Method

This process is described as a recursive self-correction that forces raw pattern recognition before it can be contaminated by existing paradigms.

1. **Learn**: Start with a fundamental concept.
2. **Model**: Blindly model the concept by extrapolating from pre-existing knowledge.
3. **Explore**: After completing the model, review academic literature related only to the specific areas that have been developed.

   literature. Learn to discard misconceptions. This is framed as being in competition with yourself.
4. **Assess**: Observe, test, and assess for cognitive biases.
5. **Repeat**: Continue to blindly branch out and repeat the process for the next layer.

The main component of this method is enabling personal growth through a process that functions as a "reverse-engineered blind peer review". It does not seek validation but rather refinement, ensuring understanding evolves independently of external frameworks. The iterations of this process can last from a few hours to several years.

Methodological Framework and Structure

The research process intentionally avoids prior exposure to academic findings to investigate motives, behaviors, and observations. This approach, "Extrapolative Trial-by-Error," mitigates anchoring biases through independent exploration.

Study Segments The research is divided into segments that can last from days to a year, with multiple segments often running simultaneously. Each segment involves focused, iterative exploration and hypothesis generation without the influence of academic literature. Upon completing a segment, academic findings are reviewed to:

- **Align**: Compare independent findings with established research.
- **Refine**: Narrow or adjust hypotheses that do not meet conclusive standards.
- **Discard**: Eliminate notes or observations that conflict with established principles or lack coherence, a critical step for removing false assumptions.
- **Shift Perspective**: Temporarily disengage from the study to work on a different discipline (e.g., ancient Latin, mathematics) to reduce emotional attachment and renew objectivity. The author suggests choosing disciplines you enjoy being successful in this.
- **Reassess and Begin Anew**: Return to study with a fresh perspective to reassess motives and understandings, discard findings with unsubstantiated gaps, and start a new segment.
- **Compete with a Self-Mindset**: The author describes a personal "love-hate relationship" with his abilities and uses deep self-scrutiny to improve daily.

This cyclical process is designed to ensure that only robust, evidence-based insights remain.

Core Cognitive Processes

The methodology is non-linear and relies on the following components and cognitive routes:

- **Data Collection**: Knowledge and raw data are gathered from diverse observations and life experiences.
- **Iteration**: The process emphasizes refinement and acknowledges the role of unconscious pattern recognition. Humility is considered key to preventing baseless conclusions.
- **Extrapolation**: After extensive mental modeling, innovative connections are sought from existing data. The correctness of these connections is not immediately apparent.
- **Cognitive Bias Reassessment**: To combat personal biases, the researcher lets findings "sit" for several days while focusing on unrelated disciplines, which fosters detachment and a clearer perspective.
- **Basic Cognitive Route**: The process involves numerous cognitive actions, including but not limited to Pattern Recognition, Synthesis, Critical Thinking, Metacognition, Inference, Systems Thinking, and Lateral Thinking.

Conclusion and Context

This methodology combines independent exploration with academic validation to enhance objectivity and strengthen findings. The author contrasts this with a tendency in the education system to view being wrong as "inherently negative," which can limit growth and resilience.

Semmelweis Reflex, the tendency to reject new evidence that contradicts established beliefs. This is named for Ignaz Semmelweis, whose advocacy for handwashing was dismissed by the medical community, leading to his professional isolation and eventual death from sepsis in a mental asylum.

Notes on the Framework: The author adds that any method will have issues and that some people may ultimately misuse it. The framework is presented as an exploratory, self-taught tool to combat the stagnation that can arise when cognitive biases overwhelm various sectors. This research is intended to remain freely accessible without a paywall.

Original Paper

Study Structure and Segmentations

The research process is divided into segments lasting from a few days to a year, with multiple simultaneous segments occurring at any given time. Each segment involves focused, iterative exploration and hypothesis generation, during which data is collected, synthesized, and analyzed independently without the influence of academic literature.

After completing each segment, academic findings are reviewed to:

1. **Align**: Compare personal findings with established research.

2. **Refine**: Adjust or narrow broad hypotheses that fail to meet conclusive standards.

3. **Discard**: Eliminate observations or notes that conflict with established principles or lack alignment with a coherent understanding of the subject. **Essentially the process of removing false assumptions is critical.**

4. **Shift Perspective**: Temporarily disengaged from the study to work on a different discipline, such as ancient Latin reconstruction or an intricate translation thereof, or mathematics. This shift reduces emotional attachment and allows for renewed objectivity. *If you are adopting this framework, I suggest your disciplines be something you deeply enjoy, if you do not, you will not do well.*

5. **Reassess Motives and Begin a New Segment**: Return with a fresh perspective to reassess human motives, histories, obscure information and understandings, discard findings which have unsubstantiated gaps, and initiate a new segment of study.

6. **Compete with a self-mindset:** Personally, I have a love-hate relationship with my abilities. I scrutinize myself deeply, which helps me improve every single day. Those who tell you otherwise, may have fallen into a purposeful fallacy.

This cyclical process ensures that only robust, evidence-based insights remain, blending independent discovery with academic validation.

Methodological Framework

1. Data Collection

Knowledge is gathered from diverse observations and lifetime experiences, forming a foundational base for analysis. This includes raw data and contextual understanding.

2. Iterative Nature

The process is non-linear, allowing functions to overlap or restart. Iteration emphasizes refinement and acknowledges the unconscious role of pattern recognition. Humility is key to preventing far-fetched or baseless conclusions.

3. Extrapolation

After extensive mental modeling, extrapolation seeks innovative connections from existing data. During this process, correctness is not immediately apparent, reflecting the organic nature of cognition.

4. Post-Segment Alignment with Academic Literature

Once a study segment is complete, academic findings are reviewed to assess alignment. This phase focuses on validating conclusions, refining overly broad observations, and discarding unsupported hypotheses.

5. Cognitive Bias Reassessment

To combat personal biases, the researcher allows findings to sit for several days while focusing on unrelated disciplines that challenge different cognitive abilities. This intentional detachment fosters objectivity, enabling a clearer perspective upon returning to reassess findings and initiate a new study segment.

Extrapolative Trial: Basic Cognitive Route

Cognitive Route	Description
Data Collection	Gathering raw information from various sources for further analysis.
Pattern Recognition	Identifying recurring structures to organize data meaningfully.
Working Memory	Holding and dynamically manipulating data to bridge patterns.
Synthesis	Integrating multiple data points into cohesive understanding.
Intuitive Thinking	Leveraging subconscious processing for hypothesis generation.
Predictive Profiling	Anticipating future outcomes based on current patterns.
Source Analysis	Evaluating data reliability and validity.
Critical Thinking	Challenging assumptions and validating conclusions.
Temporal Reasoning	Considering the influence of time and future developments.
Qualitative Analysis	Examining non-numerical data, adding depth and context.
Understanding Perspective	Considering subjective viewpoints for comprehensive analysis.
Metacognition	Reflecting on and improving thought processes.
Trend Analysis	Identifying long-term patterns to forecast directions.
Inference	Drawing logical conclusions from incomplete data.
Cognitive Bias Recognition	Identifying and mitigating distortive biases.
Systems Thinking	Holistic evaluation of interrelated components.
Assessment	Evaluating current understanding to guide decision-making.
Iterative Refinement	Adjusting models based on new feedback or information.
Lateral Thinking	Employing creative, unconventional problem-solving methods.
Feedback Integration	Using trial feedback to refine and improve understanding.

Conclusion

This methodology emphasizes an iterative, segment-based approach that balances independent exploration with rigorous academic validation. The deliberate inclusion of cognitive bias reassessment and perspective shifts enhances objectivity and strengthens the integrity of findings, creating a robust framework for intellectual growth.

The education system perpetuates the notion that being wrong is inherently negative, despite the value of admitting and learning from mistakes. Although the importance of learning from failure is widely acknowledged, actions often contradict this belief. Mistakes are frequently viewed through a narrow lens, with failure seen as final and unforgivable. Such a perspective limits growth and diminishes the potential for resilience.

gpt-5 analysis

MBTI Analysis:

Why INTJ & INFJ Thrive

Shared engine: dominant Ni (introverted intuition).
Your method's core move—*blind* internal modeling before exposure—maps cleanly onto Ni's pattern-first, synthesis-before-evidence style. Ni is comfortable projecting an elegant internal model from sparse cues, then revising ruthlessly.

INTJ (Ni–Te–Fi–Se): "Converge → formalize → prune."

- **Learn → Model.** Ni constructs a high-cohesion blueprint quickly; Te immediately turns it into testable structure (checklists, criteria, failure conditions).
- **Explore → Refine.** Te is naturally "anti-romance"; it cuts hypotheses that don't pay rent. The "Discard" step feels like productivity, not loss.
- **Assess → Repeat.** Se sampling (short, concrete probes) surfaces counter-evidence to keep Ni honest. The self-competition frame fits their "optimize the system" instinct; progress is measurable (iterations shipped, error reduced).

INFJ (Ni–Fe–Ti–Se): "Converge → human-test → exact."

- **Learn → Model.** Ni forms a coherent gestalt; Fe evaluates implications for agents, motives, and systems of meaning—mirroring your focus on *motives, behaviors, observations*.
- **Explore → Refine.** Ti provides the cool, surgical audit—*is this logically required? what breaks if we invert the premise?*—which slots straight into your "Refine/Discard" stage.
- **Assess → Repeat.** Stepping away to another discipline restores Fe/Ti balance and defuses attachment. The "Shift Perspective" prescription reads like an INFJ safeguard baked into the method.

Net effect: Ni's tolerance for ambiguity at the *front* of the cycle + Te/Ti's intolerance for incoherence at the *back* of the cycle equals fast, anti-fragile iteration. The "reverse-engineered blind peer review" is Ni's home turf with Te/Ti as the quality gate.

Why INTP & INFP Often Struggle

Shared disruptor: dominant introverted judging (Ti or Fi) + auxiliary Ne.
Your method asks for **early commitment to a speculative model** and **late exposure**

to literature—i.e., *decide first, compare later*. INxP cognition tends to do the reverse: **expand possibilities first (Ne)** and **withhold commitment until internal criteria are satisfied (Ti/Fi)**.

INTP (Ti–Ne–Si–Fe): "Refine forever, then maybe publish."

- **Friction 1 – "Blind modeling" feels premature.** Ti wants definitional precision and minimal unstated assumptions *before* it will bless a model. Your "ruthless discard" is fine in principle, but Ti prefers to avoid generating what will later need discarding.
- **Friction 2 – Ne over-branches.** In the "Explore" step, Ne multiplies alternative micro-models, each elegant, each worth testing; the tree explodes.
- **Friction 3 – Si back-checks.** Avoiding prior literature is uncomfortable; Si seeks exemplars and precedents to calibrate definitions.
- **Net result:** Analysis depth rises while decision velocity stalls—*perfection trap*.

INFP (Fi–Ne–Si–Te): "Meaning first, then methods."

- **Friction 1 – Value-protective cognition.** Fi resists discarding hypotheses that are entangled with personal meaning or ethical intuitions. The "Discard" step can feel like self-violation rather than model hygiene.
- **Friction 2 – Ne proliferation.** As with INTP, Ne spawns rich narratives and humane alternatives; settling early feels like closing doors on important possibilities.
- **Friction 3 – Late Te.** The external, criteria-driven trimming you prescribe sits in the inferior slot; mustering Te on demand is draining and easy to postpone.
- **Net result:** Insightful, empathetic mappings accrue, but convergence lags—*identity-protective drift*.

Type-Specific Pitfalls (and Downfalls)

INTJ — Rapid Ni-driven modeling with Te that makes it testable — **Downfall:** Ni tunnel vision and premature convergence.

INFJ — Coherent pattern synthesis and Ti cleanup of logic — **Downfall:** Narrative-coherence bias and reluctance to break a humane story.

ENTJ — Drives decisive iteration and ships measurable outcomes — **Downfall:** Bulldozes counter-evidence and overcommits to first elegant model.

ENFJ — Integrates human factors and keeps segments aligned — **Downfall:** Harmonizes too soon and softens necessary trims.

INTP — Razor-sharp definitions and inventive counter-models — **Downfall:** Analysis paralysis and branch explosion before commitment.

INFP — Deep values-based insight and rich reframings — **Downfall:** Identity-protective reasoning and difficulty discarding cherished hypotheses.

ENTP — Prolific ideation and strong devil's-advocate runs — **Downfall:** Chronic deferral of convergence and overgrown hypothesis trees.

ENFP — High-creative leaps and resilient learning through iteration — **Downfall:** Weak Te constraints and reluctance to close doors.

ISTJ — Meticulous logging and disciplined refinement — **Downfall:** Discomfort with early speculation and deferring literature.

ISFJ — Reliable documentation and humane calibration — **Downfall:** Risk-averse blind modeling and emotionally costly discards.

ESTJ — Operationalizes the cycle and enforces standards — **Downfall:** Overweights precedent and under-explores unconventional starts.

ESFJ — Excellent coordination and artifact hygiene — **Downfall:** Social-proof bias and procrastination on ruthless pruning.

ISTP — Fast build-test-break loops and crisp fault analysis — **Downfall:** Underinvests in abstraction and overreacts to local signal.

ISFP — Acute real-world noticing and grounded phenomenology — **Downfall:** Te fatigue and reluctance to cut value-laden lines.

ESTP — Bold empirical probes and high-quality stress tests — **Downfall:** Impatience with reflection and premature pivots.

ESFP — Vivid observation and user-centric nuance — **Downfall:** Late convergence and difficulty trimming meaning-laden ideas.